

Patent claims:

1. An objective, in particular a projection objective in microlithography for producing semiconductor components, that is assembled from a number of individual housing structures, optical elements being arranged in each housing structure, and a number of optical axes being formed by the housing structures, characterized in that at least one first housing structure (4) is provided with seats (22, 23, 24, 25) on which one or more further housing structures (5) are adjusted and are connected to the first housing structure (4).

2. The objective as claimed in claim 1, characterized in that at least one of the seats (22, 23, 24, 25) are provided for the purpose of adjusting and mounting one or more optical elements or optical subassemblies (6, 8, 11, 14) in the first housing structure (4).

3. The objective as claimed in claim 1 or 2, characterized in that the seats (22, 23, 24, 25) are provided on external surfaces of the first housing structure (4).

4. The objective as claimed in claim 3, characterized in that provided as external surfaces is at least one first seat (22) that runs at an angle of (<) less than 30°, in particular at least approximately parallel, to a first optical axis (15).

5. The objective as claimed in claim 4, characterized in that provided as further external surfaces are two mutually parallel seats (23, 24) that lie at an angle of (<) less than 30°, in particular at least approximately parallel, to a fur-

ther optical axis (16).

6. The objective as claimed in claims 4 and 5, characterized in that the first seat (22) is arranged at least approximately perpendicular, at least at an angle of ($>$) greater than 60° to the mutually parallel seats (23, 24).

7. The objective as claimed in one of claims 3 to 6, characterized in that a fourth seat (25) is provided at an angle to the first seat (22) and to the two mutually parallel seats (23, 24).

8. The objective as claimed in claim 7, characterized in that the fourth seat (25) is arranged at an angle of $45^\circ \pm 15^\circ$ to the first seat (22) and to the two mutually parallel seats (23, 24), and in that arranged on the fourth seat (25) is a deflecting mirror (14) for producing a third optical axis (18) for a second housing structure (5).

9. The objective as claimed in claim 8, characterized in that the second housing structure (5) is provided with at least one seat (27) on which one or more further optical elements arranged in substructures, or subassemblies (19) of optical elements (20, 21) are adjusted and connected to the second housing structure (5).

10. The objective as claimed in claim 8 or 9, characterized in that the second housing structure (5) is provided with at least one further seat (26) by means of which the first housing structure (4) is connected to the second housing structure (5).

11. The objective as claimed in claim 10, characterized in that the junction between the first housing structure (4) and the second housing structure (5) is formed by the seats (23, 26) of the first housing structure (4) and of the second housing structure (5).

12. The objective as claimed in claim 8, 9 or 10, characterized in that the second housing structure (5) is provided with at least two further seats (28a, 28b), one seat (28a) running perpendicular to the seat (26), and the further seat (28b) running perpendicular to the further seat (28a) and to the seat (26) via which the second housing structure (5) is connected to the first housing structure (4).

13. A projection exposure machine for producing semiconductor components, having an objective as claimed in one of claims 1 to 12.

14. The projection exposure machine for producing semiconductor components as claimed in claim 13, for using light with a wavelength of less than 360 nm.